

What is claimed is:

1. A semiconductor laser device having an index-guided structure and oscillating in a fundamental mode, comprising:

- 5                   a lower cladding layer;
- a lower optical waveguide layer formed above said lower cladding layer;
- a quantum well layer formed above said lower optical waveguide layer;
- 10                  an upper optical waveguide layer formed above said quantum well layer; and
- a current confinement structure formed above said upper optical waveguide layer;
- said upper optical waveguide layer has a first thickness smaller than a second thickness of said lower optical waveguide layer.

2. A semiconductor laser device according to claim 1, wherein a sum of said first and second thicknesses is 0.5 micrometers or greater.

20                  3. A semiconductor laser device according to claim 1, wherein a bottom of said current confinement structure is at a height smaller than 0.25 micrometers above an upper surface of said quantum well layer.

25                  4. A semiconductor laser device according to claim 3, wherein said bottom of said current confinement structure is arranged on said upper surface of said upper optical

waveguide layer.

5. A semiconductor laser device according to claim 1,  
wherein said lower optical waveguide layer, said quantum  
well layer, and said upper optical waveguide layer are  
5 made of an aluminum-free semiconductor material.

112 6. A semiconductor laser device according to claim 5,  
wherein at least one of said lower cladding layer and said  
upper cladding layer is made of a semiconductor material  
containing aluminum.

7. A semiconductor laser device according to claim 1,  
wherein said index-guided structure is an internal stripe  
type or a ridge waveguide type.

8. A semiconductor laser device according to claim 1,  
wherein said index-guided structure has a stripe width of  
4 micrometers or smaller.

10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65  
66  
67  
68  
69  
70  
71  
72  
73  
74  
75  
76  
77  
78  
79  
80  
81  
82  
83  
84  
85  
86  
87  
88  
89  
90  
91  
92  
93  
94  
95  
96  
97  
98  
99  
100

add  
23